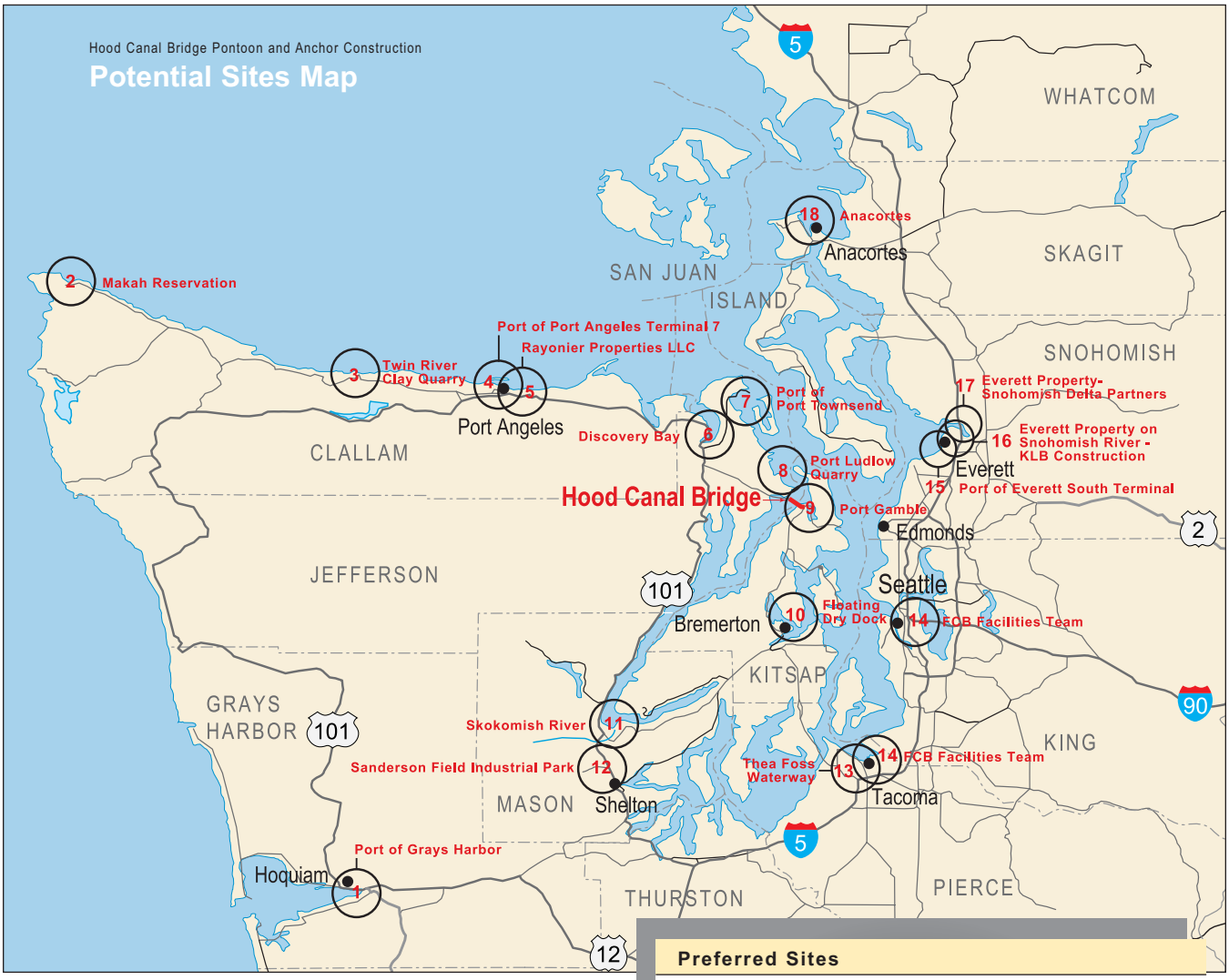
Hood Canal Bridge Site Selection Report

A SUMMARY OF 18 PROPOSED SITES FOR NEW GRAVING DOCK FACILITIES

Washington State Department of Transportation
OLYMPIC REGION
MARCH 2005

Contents



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EXECUTIVE SUMMARY

In August 2003, the Washington State Department of Transportation (WSDOT) began building a steel and concrete facility near Port Angeles for casting concrete pontoons and concrete anchors. Once the pontoons and anchors were built they would be towed from the Port Angeles facility to the Hood Canal Bridge, where they would be installed to replace the existing 1961 era pontoons that make up the east portion of the bridge.

When crews began grading the site, they discovered human remains and cultural artifacts of the Lower Elwha Klallam Tribe and its ancestors. The discoveries led WSDOT, the Lower Elwah Klallam Tribe, and other state and federal agencies to undertake an extensive archaeological recovery effort at the site. As the recovery effort continued, many more archeological discoveries were made. As a result, the Tribe asked WSDOT to leave the site on December 10, 2004. On December 21, 2004, WSDOT announced its intention to pursue construction elsewhere.

On December 22, 2004, WSDOT requested proposals for commercial waterfront property available for lease or purchase within Puget Sound. In the solicitation, WSDOT identified the preferred site size, design requirements, launching methods, and the site evaluation criteria.

WSDOT received 18 proposals. The sites are located within Puget Sound and Grays Harbor County as shown on the potential sites map (opposite page). The proposals were reviewed and supporting technical data were obtained by a WSDOT team made up of bridge engineers, geologists, environmental engineers, biologists and consultants. The WSDOT team visited the properties and in some instances requested additional information from submitters.

This report summarizes the 18 proposals and the data collected by the WSDOT team. The WSDOT team evaluated the 18 proposals based on site evaluation criteria identified in WSDOT's proposal request. The results of the site evaluation process and the scoring

Hood Canal Bridge Pontoon and Anchor Construction

Site Evaluation Matrix

SITES	TOWING DISTANCE	SITE SIZE	WATERFRONT LENGTH	LAND & WATER ACCESS	EXISTING MARINE FACILITIES	PROXIMITY OF OTHER MARINE FACILITIES	TIDES AND CURRENTS	WIND & WAVE EXPOSURE	PROXIMITY OF RAIL	ACCESS TO AGGREGATE	PROXIMITY TO CONCRETE PLANTS	SITE UTILITIES	ENVIRONMENTAL RISKS	ENVIRONMENTAL PROCESS	SITE DATA	PROXIMITY TO TRADES PEOPLE	LOCAL SUPPORT	AVAILABILITY FOR SR 520 PROJECT	COMMENTS
15 Port of Everett South Terminal	●	◑	●	●	●	●	●	◑	●	●	●	●	◑	◑	○	●	◑	●	Deepest channel, no dredging required.
8 Port Ludlow Quarry	●	●	●	◑	◑	○	●	●	○	●	○	◑	●	◑	●	●	◑	●	Large quarry site
14 FCB Facilities Team	◑	◑	●	●	●	●	●	●	●	●	●	●	●	●	●	●	?	◑	Sites are available for immediate construction.
6 Discovery Bay	●	●	●	◑	◑	○	●	●	○	●	●	◑	○	○	◑	●	?	●	Managed timberland site, not zoned for industrial use.
1 Port of Grays Harbor	○	●	●	◑	○	○	○	◑	○	●	◑	●	◑	◑	○	○	●	●	Over 220 miles to Hood Canal Bridge
18 Anacortes	◑	●	●	◑	○	●	◑	◑	●	◑	◑	◑	◑	◑	●	●	◑	?	Would affect eelgrass.
5 Rayonier Properties LLC	◑	◑	●	●	◑	●	●	●	○	●	●	●	○	◑	●	●	◑	●	Site contains contaminated soil, groundwater, and sediments.
9 Port Gamble	●	◑	●	●	◑	●	◑	◑	○	●	●	●	◑	○	●	●	●	●	Site has contaminants and is located in a historic district.
16 Everett Property on Snohomish River-KLB Construction	●	◑	◑	◑	◑	●	○	●	●	●	●	●	◑	◑	○	●	●	●	Requires extensive dredging, channel may not be wide enough.
17 Everett Property - Snohomish Delta Partners	●	●	●	◑	◑	●	○	●	●	●	●	●	○	◑	◑	●	●	●	Requires extensive dredging and breaching a Corps of Engineer's dike.
7 Port of Port Townsend	●	●	●	●	◑	●	●	◑	○	●	●	●	○	◑	○	◑	◑	◑	Tidelands and wetlands would be affected.
2 Makah Reservation	○	●	●	◑	○	○	●	◑	○	●	◑	●	◑	◑	○	○	●	●	100 miles to Hood Canal Bridge
3 Twin River Clay Quarry	◑	●	●	◑	◑	◑	○	○	○	●	◑	◑	●	◑	○	●	?	●	Requires extensive dredging.
4 Port of Port Angeles Terminal 7	◑	○	●	●	◑	●	●	●	○	●	●	●	○	◑	○	●	●	◑	Risk of cultural artifacts
11 Skokomish River	◑	?	?	○	○	○	?	◑	○	◑	◑	?	○	○	○	◑	?	?	Requires extensive dredging in a flood zone.
13 Thea Foss Waterway	◑	○	○	◑	●	●	?	●	◑	●	●	●	○	◑	○	●	?	◑	The site is too small, dredging would be required in a Superfund site.
12 Sanderson Field Industrial Park	NA	●	○	○	○	○	NA	NA	○	◑	◑	●	◑	◑	○	◑	?	?	Site does not have water access.
10 Floating Dry Dock	◑	?	?	●	●	●	◑	●	●	◑	●	●	?	?	?	●	?	○	Dry dock is not reasonable for pontoon construction.

? = Unknown NA = Not Applicable

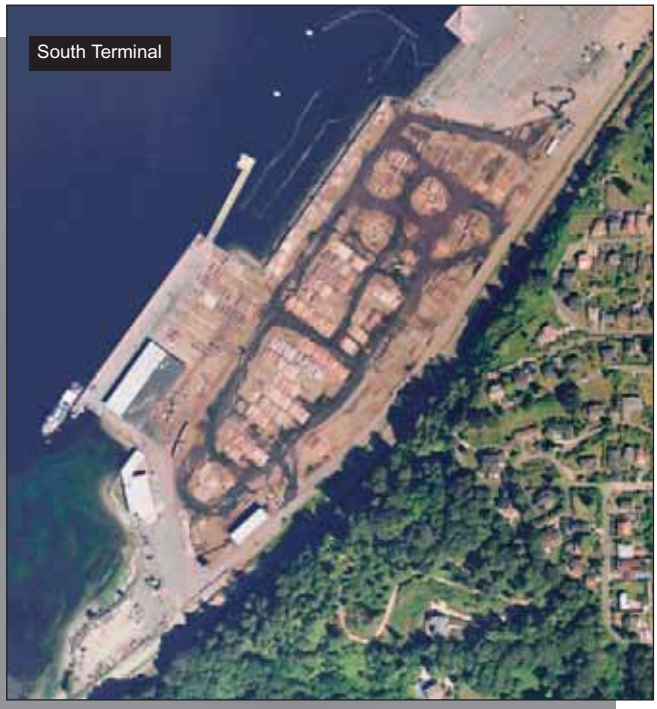
Scoring Criteria Table

	○	◑	●
Towing Distance	> 100 miles	35 - 100 miles	< 35 miles
Site Size	< 16 acres	16 - 30 acres	> 30 ares
Waterfront Length	< 900 feet	900 - 1,000 feet	> 1,000 feet
Land & Water Access	Poor	Fair	Good
Existing Marine Facitities	Limited	Needs improvements	Ready for use
Proximity of Other Marine Facilities	> 30 miles	15 - 30 miles	< 15 miles
Tides & Currents	Severe	Moderate	Typical
Wind & Wave Exposure	Severe	Moderate	Minimal
Proximity of Rail	No direct acces	Within haul distance	Adjacent to site
Access to Aggregate	> 15 miles	7 - 15 miles	< 7 miles
Proximity to Concrete Plants	> 30 miles	15 - 30 miles	< 15 miles
Site Utilities	None	Needs improvements	Ready for use
Environmental Risks	High	Moderate	Low
Environmental Process	> 12 months	6 - 12 months	< 6 months
Site Data	Limited	Some exploration	Due diligence completed
Proximity to Trades People	> 60 miles	30 - 60 miles	< 30 miles
Local Support	None	Some	High
Availability for SR 520 Project	No	Maybe	Yes

criteria used are shown in the site evaluation matrix and scoring criteria table on the opposite page.

Based on WSDOT's engineering and environmental evaluation of the sites, WSDOT has identified three preferred sites for pontoon and anchor construction. The preferred sites include the Port of Everett South Terminal, Port Ludlow Quarry, and properties presented by the FCB Facilities Team. The remaining 15 proposals fall into three categories: acceptable sites, high risk sites, and least reasonable sites. This report summarizes important characteristics of each of the sites and compares them to the evaluation criteria.


SKAGIT
ISLAND
SNOHOMISH
17 Everett Property-
Snohomish Delta Partners
Everett Property on
16 Snohomish River -
KLB Construction
Everett
8 Port Ludlow Quarry
15 Port of Everett
South Terminal
2
9 Port Gamble
Edmonds
Hood
Canal Bridge
5
KING
Seattle


South Terminal

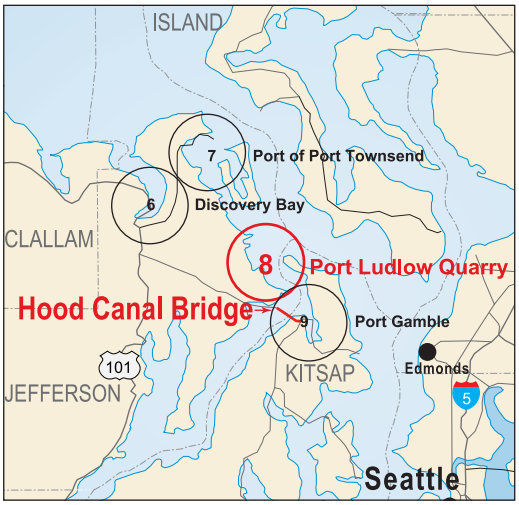

N
Ebby Slough
Steamboat Slough
Snohomish
Delta Partners
KLB
Construction
Snohomish River
5
Possession Sound
Jetty Island
Port
Gardner
Channel
MARINE VIEW DRIVE
Everett
Naval Station
Puget Sound
Port of
Everett
EVERETT AVENUE
Port of Everett South Terminal

Port Of Everett, South Terminal
SNOHOMISH COUNTY

Among the 18 proposed graving dock sites, the South Terminal at the Port of Everett represents one of three preferred sites. The 26-acre waterfront property, owned by the Port of Everett, is 32 miles from the Hood Canal Bridge. It includes a 700-foot by 100-foot dock, wharf, and mooring dolphins

The site would require a full graving dock design, permitting, excavation, and installation. Spoils from excavation would need to be disposed of off-site. No dredging in the adjacent (minus) – 40 foot deep channel would be necessary. Among all sites proposed, the South Terminal site is adjacent to the deepest waterway. There are several nearby sources for supplies, materials, and labor. The site has good land and water access, and it appears to have good foundation material below the fill to support a graving dock floor. Key environmental challenges include potential on-site soil contamination and a cultural resource assessment would be required due to the site's location.

Site Information	Preferred Sites
Towing Distance	32 miles
Site Size	26 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Good
Existing Marine Facitities	Ready for use
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Typical
Wind & Wave Exposure	Moderate, the site is exposed to sea conditions during severe storms.
Proximity of Rail	Adjacent to site
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for use
Environmental Risks	Moderate – the site may have contaminants from previous land uses, and a cultural resources assessment will be required due to the site's location
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited.
Proximity to Trades People	Less than 30 miles
Local Support	Some
Availability for SR 520 Project	Yes


ISLAND
7
Port of Port Townsend
6
Discovery Bay
CLALLAM
8
Port Ludlow Quarry
Hood Canal Bridge
9
Port Gamble
101
KITSAP
Edmonds
JEFFERSON
5
Seattle


Port Ludlow Quarry


Puget Sound
N
Olel Point
Burner Point
Mats Mats Bay
Port Ludlow Quarry
OAKBAY ROAD
JEFFERSON COUNTY
Tala Point
Port Ludlow
Port Ludow
Jefferson County Line
PARADISE BAY ROAD

Port Ludlow Quarry *Mats Mats Bay*

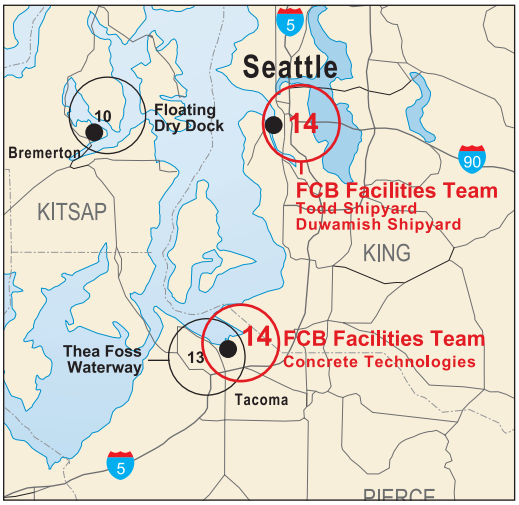
JEFFERSON COUNTY

Among the 18 proposed graving dock sites, the Port Ludlow quarry is one of three preferred sites. The 120-acre quarry, owned by Glacier Northwest, is 8.5 miles from the Hood Canal Bridge.

A portion of the quarry is excavated to sea level and it could be excavated down to an elevation of (minus) -60. This depth is well below the elevation required for pontoon and anchor construction. Site development would require design and construction of a gate at the interface between the land and the water. Drilling and blasting of rock would be required to excavate the site. Of all the sites proposed that require development, quarry site development could occur the fastest. In addition, the site could be expanded for future work, such as pontoon construction for the replacement of the SR 520 Floating Bridge.

More than likely, supplies and material would be delivered to the site by barge because roads into the site are narrow and pass through a neighborhood. In 1991, WSDOT identified the site as a possible pontoon construction location for the Lacey V. Murrow Bridge. At that time, a neighborhood coalition opposed its use for pontoon construction. The same group may have concerns about the site's use for a graving dock.

Site Information	Preferred Sites
Towing Distance	8.5 miles
Site Size	120 acres (60 acres are an active quarry)
Waterfront Length	More than 1,000 feet
Land & Water Access	Fair, a narrow road leads to the site through a neighborhood and an opening would need to be excavated between the land and water.
Existing Marine Facitities	Needs Improvements
Proximity of Other Marine Facilities	More than 30 miles
Tides & Currents	Typical
Wind & Wave Exposure	Minimal – rock jetties provide protection from severe weather.
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles by barge
Proximity to Concrete Plants	More than 30 miles
Site Utilities	Needs improvements
Environmental Risks	Low – a neighborhood group may be concerned. Since the site is a quarry, there is a low probability of finding archaeological deposits.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Due diligence has been completed.
Proximity to Trades People	Less than 30 miles
Local Support	Some. A neighborhood coalition may be opposed.
Availability for SR 520 Project	Yes


Seattle
5
10
Floating
Dry Dock
Bremerton
14
90
FCB Facilities Team
Todd Shipyard
Duwamish Shipyard
KITSAP
KING
Thea Foss
Waterway
13
14
FCB Facilities Team
Concrete Technologies
Tacoma
5
PIERCE


Todd Shipyard


Duwamish Shipyard


Elliott Bay
N
Todd
Shipyard
West Waterway
East Waterway
E. FRONTAGE RD
Harbor
Island
ADMIRAL
W. Seattle Bridge
KLICKITAT AVE
S.W. AVALON
W. MARGINAL WAY SW
GENSEE ST
Duwamish Waterway
West
Seattle
DELRIDGE WAY S.W.
Kellogg
Island
KING
COUNTY
Duwamish
Shipyard
99
FIRST AVENUE S.
Seattle

FCB Facilities Team

Concrete Technologies, AML/Duwamish Shipyard, and Todd Pacific Shipyard

PIERCE & KING COUNTIES

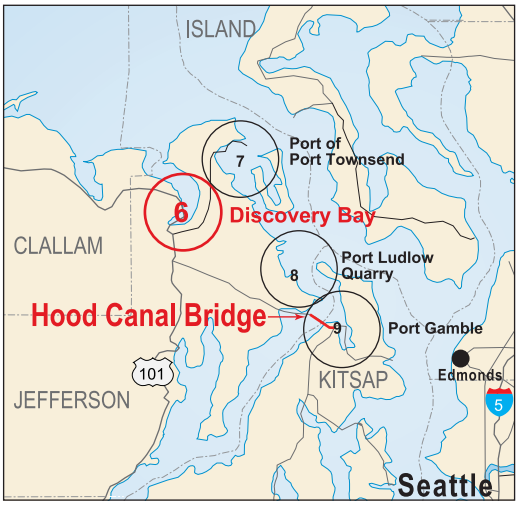
The FCB Facilities Team proposal represents one of the three preferred sites. Their proposal is a combination of three properties that are located between 40 and 65 miles from the Hood Canal Bridge.

The team includes Concrete Technologies, AML/Duwamish Shipyard, and Todd Pacific Shipyards. Concrete Technologies and AML/Duwamish have existing graving docks of 150-feet wide by 465-feet long, and 140-feet wide by 400-feet long, respectively. Todd Pacific Shipyards maintains three floating dry docks, the largest of which is 134-feet wide by 803-feet long.

The advantage of these sites is that they are available to begin pontoon construction immediately and the environmental process is likely to be the shortest. Disadvantages of these sites are that construction would take place at three different locations and staging areas at all three facilities are limited. In addition, the facilities may require modifications to meet the needs of the project and current environmental regulations. Finally, due to limited graving dock depths, the pontoons would need to be moored and outfitted at a dock. WSDOT has been advised by permitting agencies that shading under the pontoons, while they were being moored, would require consultation and mitigation for effects to endangered species.

Concrete Technologies - Blair Waterway, Tacoma

Site Information	Preferred Sites
Towing Distance	45 to 60 miles
Site Size	There are 65 acres total for the 3 sites, although only about 20 acres may be available.
Waterfront Length	More than 1,000 feet
Land & Water Access	Good
Existing Marine Facitities	Ready for project use
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Typical
Wind & Wave Exposure	Minimal
Proximity of Rail	Adjacent to the sites
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for use
Environmental Risks	Low – these are existing facilities. The sites have low probability of containing archaeological deposits.
Environmental Process	Estimated at < 6 months to complete environmental documentation and permitting once site design is complete, this is the shortest duration of all proposals.
Site Data	Due diligence has been completed
Proximity to Trades People	Less than 30 miles
Local Support	Unknown
Availability for SR 520 Project	Maybe


ISLAND
Port of
Port Townsend
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Discovery Bay
CLALLAM
Port Ludlow
Quarry
8
Hood Canal Bridge
9
Port Gamble
101
KITSAP
Edmonds
JEFFERSON
5
Seattle


Discovery Bay Site


N
Jefferson County Line
Clallum County Line
Port Townsend
CLALLAM
COUNTY
Beckett
Point
Discovery Bay Site
Discovery
Bay
101
JEFFERSON COUNTY
20

Discovery Bay
JEFFERSON COUNTY

The site is owned by Security Services Northwest, Inc. and it includes 3,700 total acres with 100 acres near water. The site is about 31 miles from the Hood Canal Bridge.

The site is currently managed as timberland, and it has never been used for industrial purposes. Although this property has limited facilities, a graving dock similar to the one planned at the current Port Angeles site could be designed and constructed. Due to the large size of this site, other construction techniques—such as open cut excavation with sloped sides—could be used to build walls for a graving dock. These alternate construction techniques could shorten the timeline for design and construction of a graving dock facility. An Environmental Impact Statement and re-zoning would likely be required due to the change in land use from an undeveloped to an industrial site. Also, a cultural resource assessment would be required due to the site's location. Of all the proposals evaluated, it is expected that the environmental process would take the longest to complete for this site.

Site Information	Acceptable Sites
Towing Distance	31 miles
Site Size	100 Acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Fair – an access road would be needed from US 101
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	More than 30 miles
Tides & Currents	Typical
Wind & Wave Exposure	Minimal
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Needs improvements
Environmental Risks	High – the site is currently managed as timberland and it is not zoned for industrial use. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 18-24 months for environmental documentation and permitting once site design is complete. This is the longest duration of all proposals.
Site Data	Some exploration completed
Proximity to Trades People	Less than 30 miles
Local Support	Unknown
Availability for SR 520 Project	Yes


GRAYS
HARBOR
101
Port of Grays Harbor
Hoquiam
1


Port of Grays Harbor Site


N
101
109
109
115
North Bay
Hoquiam
Aberdeen
Ocean
Shores
Port of Grays Harbor Site
Grays Harbor
Westport
105
South
Bay
105
Pacific
Ocean
Gray Harbor County Line
Pacific County Line

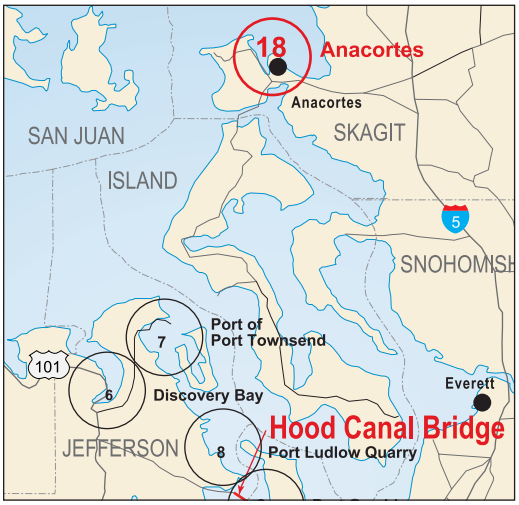
Port of Grays Harbor
GRAYS HARBOR COUNTY

The 45-acre undeveloped site, owned by the Port of Grays Harbor, is located on the confluence of Hoquiam and Chehalis Rivers. The site is over 220 miles towing distance from the Hood Canal Bridge, the longest distance of any of the proposed sites.

The pontoons and anchors would need to be towed in open ocean conditions, which adds risk compared to proposals where towing would occur within Puget Sound. The site is large enough to construct pontoons and anchors in the same number of cycles as anticipated at the original Port Angeles site. However, the site would require complete development: a full graving dock design, permitting, excavation, and installation. In addition, the shoaling or build-up of sediments in the port would require frequent dredging. There is also a sand bar at the entrance to Grays Harbor that would need to be crossed while towing pontoons and anchors.

The site is located immediately adjacent to a property that contains groundwater contaminants. A cultural resource assessment would be required due to the site's location. Finally, the site could be constrained by potential gate opening restrictions due to diverse fish use in the Hoquiam and Chehalis river systems.

Site Information	Acceptable Sites
Towing Distance	Over 220 miles
Site Size	45 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Fair – frequent dredging would be required
Existing Marine Facitities	Limited
Proximity of Other Marine Facilities	More than 30 miles
Tides & Currents	Severe
Wind & Wave Exposure	Moderate
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	15 - 30 miles
Site Utilities	Ready for project use
Environmental Risks	Moderate – the site is currently empty. The site is adjacent to a property with known groundwater contamination and a cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	More than 60 miles
Local Support	High – letters of support have been received from the City of Hoquiam, Grays Harbor County, the chamber of commerce, and the labor unions.
Availability for SR 520 Project	Yes


18
Anacortes
Anacortes
SAN JUAN
ISLAND
SKAGIT
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SNOHOMISH
Port of
Port Townsend
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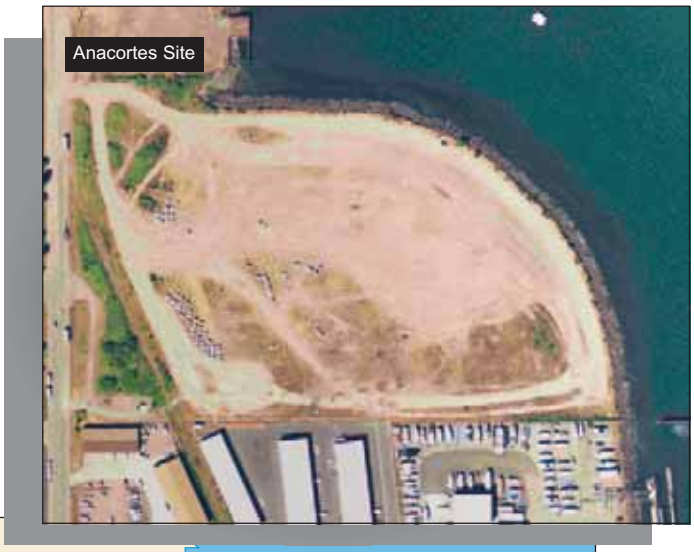
Discovery Bay
Everett
Hood Canal Bridge
JEFFERSON
8
Port Ludlow Quarry


Anacortes Site

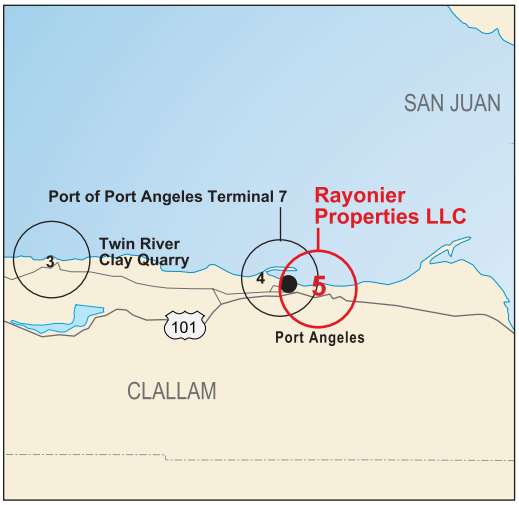

N
Guemes Island
Padilla Bay
20
Anacortes Site
Anacortes
Fidalgo
Bay
SKAGIT COUNTY
20
20

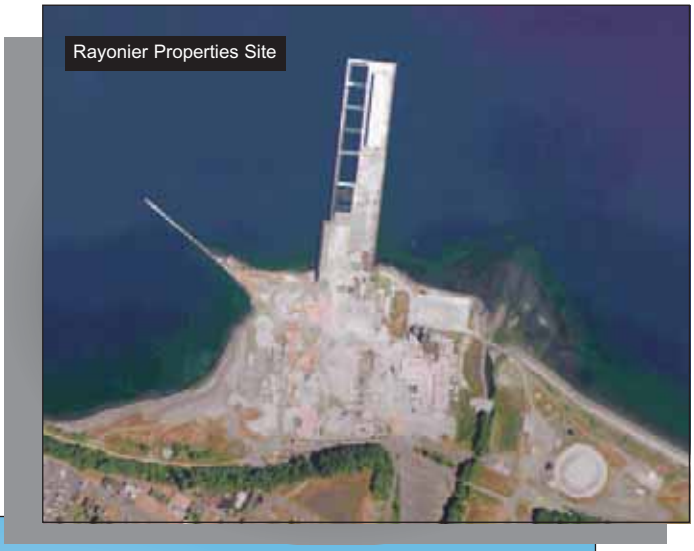
Anacortes
SNOHOMISH COUNTY

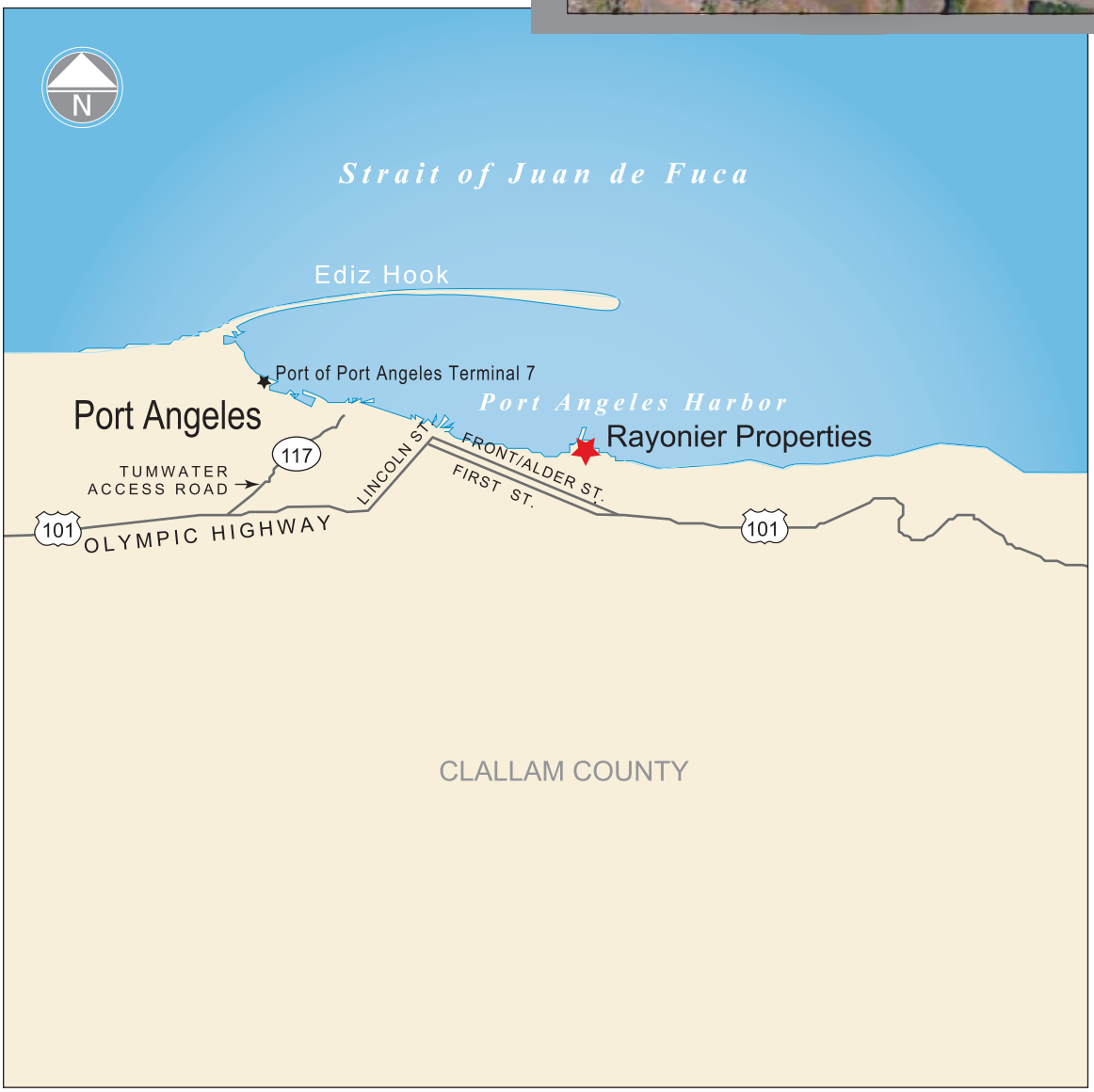
This 36-acre site, owned by MJB Properties, is located 50 miles from the Hood Canal Bridge. The property is currently vacant, it had previously been home to a glass factory and melted materials mills. The site may contain contaminated soils.

The site would require a full graving dock design: permitting, excavation, and installation similar to the current design of the partially built structure in Port Angeles. The site would require dredging and eelgrass beds would be affected. The site also contains a public trail, which could be a Section 4f issue. A cultural resource assessment would be required due to the site's location. Community members and the Anacortes City Council support use of the site.

Site Information	Acceptable Sites
Towing Distance	50 miles
Site Size	36 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Fair – the site would require extensive dredging
Existing Marine Facitities	Limited
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Moderate
Wind & Wave Exposure	Moderate
Proximity of Rail	Adjacent to site
Access to Aggregate	7 - 15 miles
Proximity to Concrete Plants	15 - 30 miles
Site Utilities	Needs improvements
Environmental Risks	Moderate – the site may have contaminated soils and a cultural resource assessment would be required due to the site's location. Dredging would be required, which would affect eelgrass.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Due to diligence has been completed.
Proximity to Trades People	Less than 30 miles
Local Support	Some – the Anacortes City Council supports use of the site.
Availability for SR 520 Project	Unknown


SAN JUAN
Port of Port Angeles Terminal 7
Rayonier Properties LLC
Twin River Clay Quarry
3
4
5
101
Port Angeles
CLALLAM


Rayonier Properties Site


N
Strait of Juan de Fuca
Ediz Hook
Port of Port Angeles Terminal 7
Port Angeles
Port Angeles Harbor
Rayonier Properties
TUMWATER ACCESS ROAD
117
LINCOLN ST.
FRONT/ALDER ST.
FIRST ST.
101
OLYMPIC HIGHWAY
101
CLALLAM COUNTY

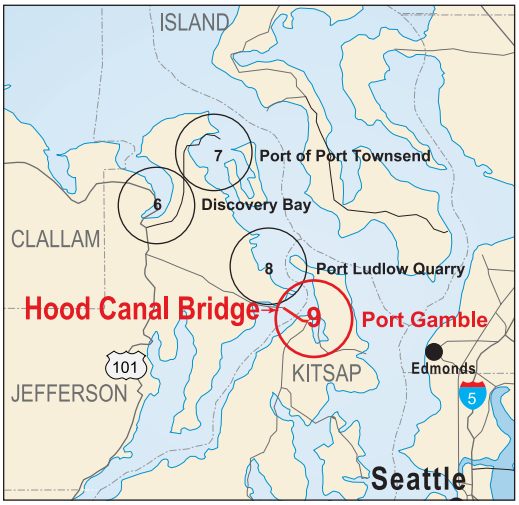
Rayonier Properties LLC
CLALLAM COUNTY

The Rayonier Properties site is located in Port Angeles, two miles east of the present graving dock site. Through 1997, the 25- to 30-acre property had been home to a pulp mill. The site is located about 50 miles from the Hood Canal Bridge.

The site is furnished with existing power, water, employee parking, and a four-and-one-half acre dock suitable for mooring and outfitting pontoons. Similar soil and topographic conditions exist in this location as at the current graving dock site. The similarities would allow for like, if not identical design and construction techniques and it would keep graving dock, pontoon, and anchor construction in Port Angeles.

The Ennis Creek Klallam village likely was located at the south end of the Rayonier Property, and it was also the location of an early settler colony dating to 1887. The majority of the site lies within fill placed beyond the original shoreline, which may reduce the likelihood of finding archeological deposits. Based on the submitted site data, a graving dock could be built in the fill material west of Ennis Creek. From a constructability standpoint, the property has excellent potential. However, there are several environmental risks. A cultural resources assessment would be required. In addition, the site contains contaminated soil, groundwater and sediment and it is a Model Toxics Control Act (MTCA) cleanup site.

Site Information	Acceptable Sites
Towing Distance	50 miles
Site Size	25 - 30 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Good
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Typical
Wind & Wave Exposure	Minimal
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	High – a cultural resource assessment would be required due to the site's location. The site contains soil, groundwater, and sediment contamination and the extent of the contamination is unknown.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Due diligence has been completed
Proximity to Trades People	Less than 30 miles
Local Support	Some
Availability for SR 520 Project	Yes


ISLAND
7
Port of Port Townsend
6
Discovery Bay
CLALLAM
8
Port Ludlow Quarry
Hood Canal Bridge
9
Port Gamble
101
JEFFERSON
KITSAP
Edmonds
5
Seattle


Port Gamble Mill Site


Jefferson County
Kitsap County
N
Hood Canal
Hood Canal Bridge
Port Gamble Mill Site
3
Port Gamble
HAINSVILLE ROAD NE
104
104

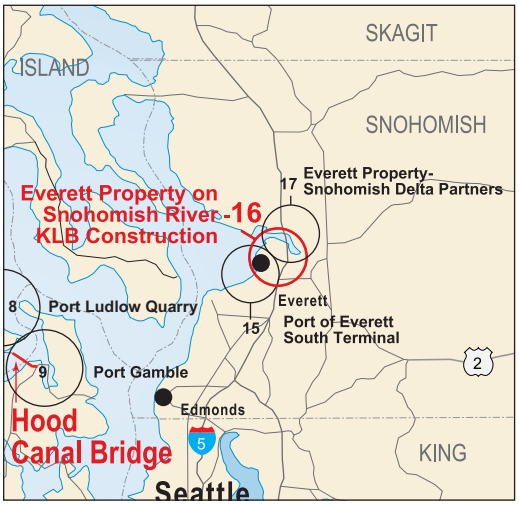
Port Gamble Mill Site
KITSAP COUNTY

This 26-acre site, owned by Olympic Property Group, is 1.25 miles from the Hood Canal Bridge, the shortest distance of all proposed sites. WSDOT already leases 15 acres on the site.

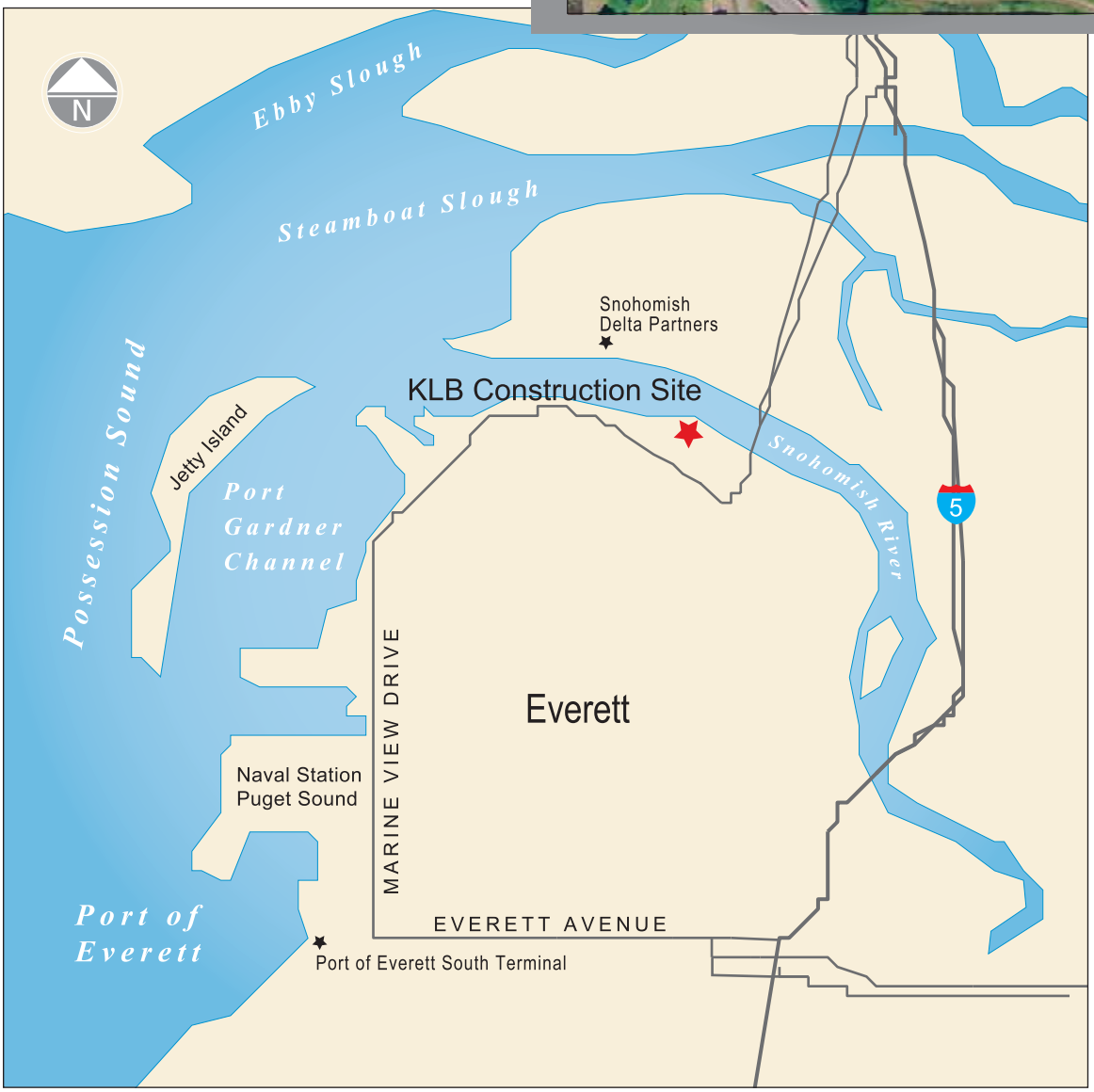
Port Gamble is a company owned town since the first lumber mill opened in 1853. The site is located in a historic district. A cultural resource assessment would be required due to the site's location. In 1995, the mill closed and environmental remediation followed, though areas of the site still require cleanup under the Model Toxics Control Act (MTCA).

The mill site currently is used for contractor storage. The existing piers, piling, docks, and bulkheads are aged and would need to be completely rebuilt, and a graving dock would need to be designed, permitted, excavated, and installed. The size of site would require a graving dock design about half the size of the original Port Angeles site. The reduced size would require additional pontoon and anchor construction cycles, thereby extending the construction schedule.

Site Information	High Risk Sites
Towing Distance	1.25 miles
Site Size	26 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Good
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Moderate
Wind & Wave Exposure	Moderate
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	Moderate – the site is located in a historic district listed on the National Register of Historic Places. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 12-18 months for environmental documentation and permitting once site design is complete.
Site Data	Due diligence has been completed.
Proximity to Trades People	Less than 30 miles
Local Support	High — endorsed by Kitsap County government
Availability for SR 520 Project	Yes


SKAGIT
ISLAND
SNOHOMISH
Everett Property-
Snohomish Delta Partners
17
Everett Property on
Snohomish River -16
KLB Construction
8
Port Ludlow Quarry
Everett
15
Port of Everett
South Terminal
2
9
Port Gamble
Edmonds
Hood
Canal Bridge
5
KING
Seattle


KLB Construction Site


N
Ebby Slough
Steamboat Slough
Snohomish
Delta Partners
KLB Construction Site
Possession Sound
Jetty Island
Port
Gardner
Channel
Snohomish River
5
MARINE VIEW DRIVE
Everett
Naval Station
Puget Sound
Port of
Everett
EVERETT AVENUE
Port of Everett South Terminal

Everett Property *on Snohomish River*
KLB Construction
SNOHOMISH COUNTY

This 26-acre property, owned by KLB Construction, is located 35 miles from the Hood Canal Bridge. The site is located just inland from the mouth of the Snohomish River, and it includes an existing 900-foot bulkhead. One primary concern for this site is maintaining river depth. Shoaling or build-up of sediment occurs regularly and it will require constant dredging. The sediment also could build-up against the graving dock gate or within the gate seals, which could also require ongoing maintenance. The channel may not be wide enough to maneuver pontoons after exiting the graving dock facility.

The site was previously used for heavy industrial purposes and it may contain contaminated soils or river sediments. A cultural resource assessment would be required due to the site's location. There are several nearby sources for supplies, materials, and labor.

Site Information	High Risk Sites
Towing Distance	35 miles
Site Size	26 acres
Waterfront Length	900 feet
Land & Water Access	Fair – frequent dredging would be required and the channel may not be wide enough to maneuver pontoons.
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Severe
Wind & Wave Exposure	Minimal
Proximity of Rail	Adjacent to the site
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	Moderate – the site previously contained heavy industrial uses and on-site soils and nearby river sediments may be contaminated. Extensive dredging would be required and river depth would need to be maintained. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	Less than 30 miles
Local Support	High – supported by the Everett Mayor and Snohomish County.
Availability for SR 520 Project	Yes


SKAGIT
ISLAND
SNOHOMISH
Everett Property
Snohomish Delta Partners
17
Everett Property on
16 Snohomish River -
KLB Construction
8
Port Ludlow Quarry
Everett
15
Port of Everett
South Terminal
2
9
Port Gamble
Edmonds
Hood
Canal Bridge
5
KING
Seattle


Snohomish Delta Partners' Site


N
Ebby Slough
Steamboat Slo
Snohomish
Delta Partners
KLB
Construction
Possession Sound
Jetty Island
Port
Gardner
Channel
Snohomish River
5
MARINE VIEW DRIVE
Everett
Naval Station
Puget Sound
Port of
Everett
EVERETT AVENUE
Port of Everett South Terminal

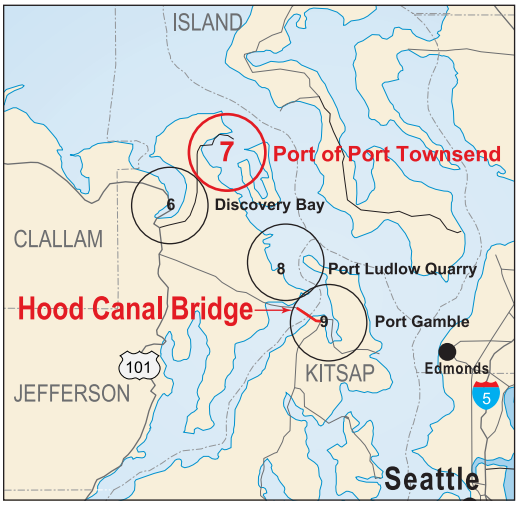
Everett Property – Snohomish Delta Partners

SNOHOMISH COUNTY

The site is 150 acres in size and is owned by the Snohomish Delta Partners. Towing distance to the Hood Canal Bridge is approximately 35 miles. Like the Snohomish River site owned by KLB, maintaining river depth is a primary concern. Frequent dredging would be required to remove build-up of sediments in the river and in front of or within a graving dock gate. A Corps of Engineer's dike would also have to be breached in order to construct a facility at this site.

A 60-acre 8-foot deep lagoon is located on the site, which may contain contaminants. A cultural resource assessment would be required due to the site's location. There are several nearby sources for supplies, materials, and labor.

Site Information	High Risk Sites
Towing Distance	35 miles
Site Size	150 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Fair – water access will require extensive dredging, including breaching a Corp of Engineers river dike.
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Severe
Wind & Wave Exposure	Minimal
Proximity of Rail	Adjacent to the site
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	High – the site is currently farmland and an on-site lagoon may contain contaminants. Extensive dredging would be required, river depth would need to be maintained, and a Corps of Engineer's dike would need to be breached. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Some
Proximity to Trades People	Less than 30 miles
Local Support	High – supported by the Everett Mayor and Snohomish County.
Availability for SR 520 Project	Yes


ISLAND
7
Port of Port Townsend
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Discovery Bay
CLALLAM
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Port Ludlow Quarry
Hood Canal Bridge
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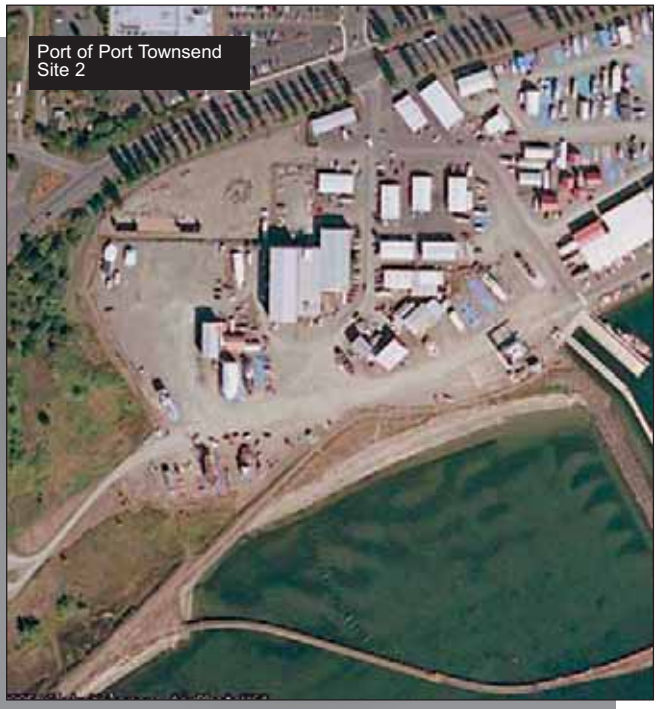
Port Gamble
101
KITSAP
Edmonds
JEFFERSON
5
Seattle


Port of Port Townsend
Site 2


N
Port Townsend
Site 2
Port of Port Townsend Site 1
Port Townsend Bay
20
19
Discovery
Bay
JEFFERSON COUNTY

Port of Port Townsend
Site 1

Port of Port Townsend

JEFFERSON COUNTY

This nearly 44-acre combined site is owned by a public/private partnership between the Port of Port Townsend and the Port Townsend Paper Corporation. The sites are located 20 miles from the Hood Canal Bridge

The combined sites consist mostly of tidelands, marshlands, and a manmade retention pond. Upland portions of the combined sites are not large enough to construct pontoons and anchors in the same number of cycles as anticipated at the original Port Angeles site. This reality would increase construction time substantially or require affecting wetlands to maintain the original schedule. Other than a 600-foot pier, the combined sites would require complete development and a full graving dock design. A portion of the site may contain contaminated groundwater. Wetlands and eelgrass beds would be affected, which could make it difficult to obtain environmental permits. A cultural resource assessment would be required due to the site's location.

Site Information	High Risk Sites
Towing Distance	20 miles
Site Size	Nearly 44 acres on two sites
Waterfront Length	More than 1,000 feet
Land & Water Access	Good
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Typical
Wind & Wave Exposure	Moderate
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	High – a portion of the site is a former paper mill and it may contain contaminated groundwater. Wetlands and eelgrass beds would be affected. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	30 - 60 miles
Local Support	Some
Availability for SR 520 Project	Maybe


2
Makah Reservation
CLALLAM
101


Makah Site


N
Tatoosh Island
Cape Flattery
Neah Bay
Waadah Island
Strait of Juan de Fuca
Makah Reservation Site
Mukkaw Bay
112
Makah Indian Reservation
Pacific Ocean
CLALLAM COUNTY
Ozette Lake

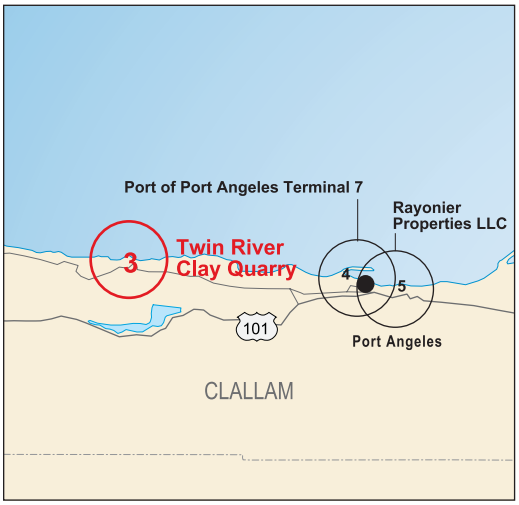
Makah Reservation
CLALLAM COUNTY

The Makah Tribe owns two sites totaling 50 acres. These properties are located on Neah Bay along the Pacific Ocean, nearly 100 miles from the Hood Canal Bridge.

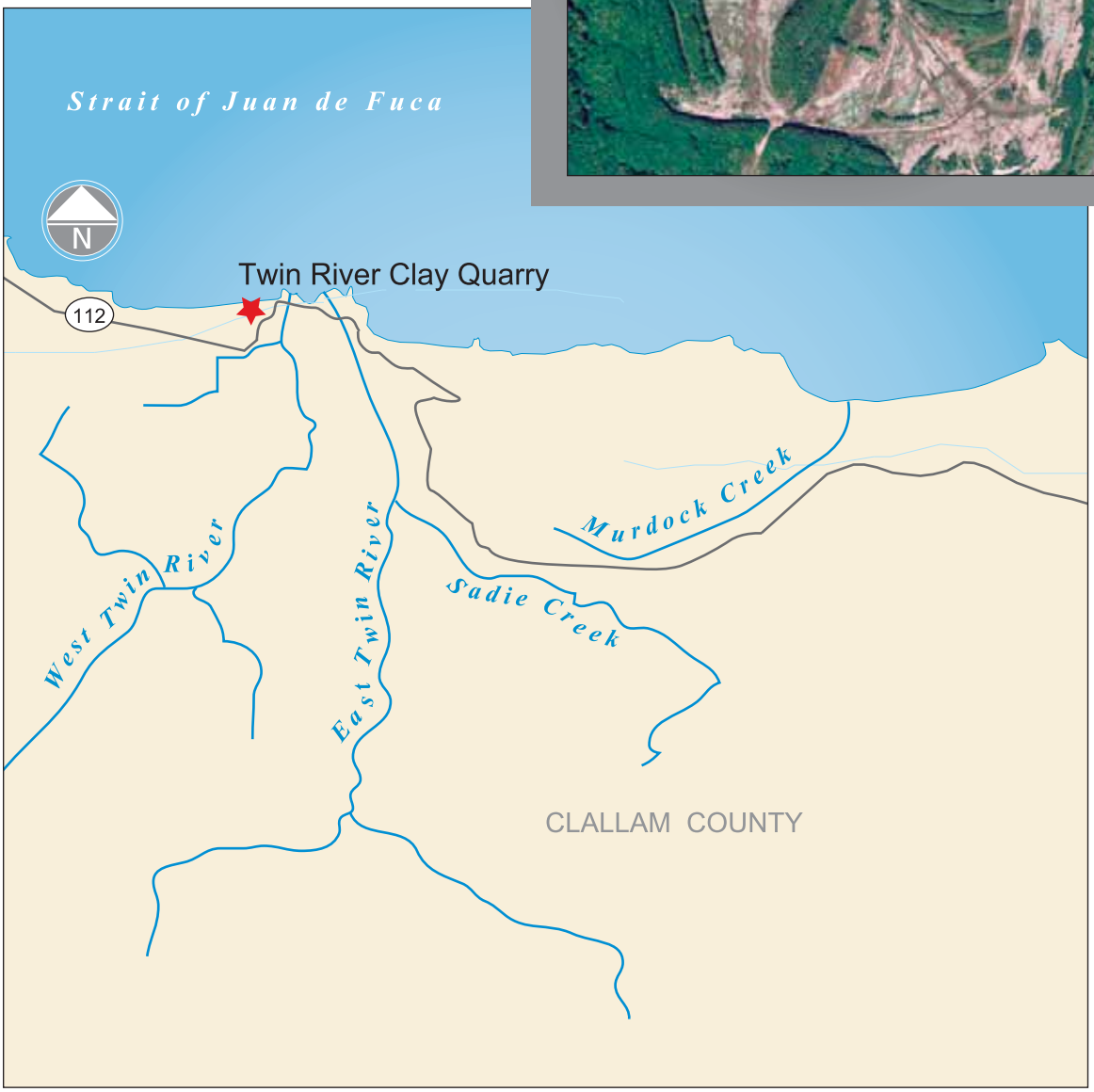
Although there is strong community support, the site is constrained by its topography, requiring part or all of the facility to be constructed in the tidelands. The site lacks existing facilities and it would require full development of a graving dock. The properties may also require extensive dredging due to shallow waters in the channel. Neah Bay has limited local materials, supplies, potable water, and labor.

This site receives 100-140 inches of rainfall a year, more than two to three times the annual rainfall of other proposed sites. Heavy rainfall could affect construction schedules. A cultural resource assessment would be required due to the site's location.

Site Information	High Risk Sites
Towing Distance	100 miles
Site Size	50 acres on two sites
Waterfront Length	More than 1,000 feet
Land & Water Access	Fair – extensive dredging would be required
Existing Marine Facitities	Limited
Proximity of Other Marine Facilities	More than 30 miles
Tides & Currents	Typical
Wind & Wave Exposure	Moderate
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	15 - 30 miles
Site Utilities	Ready for project use
Environmental Risks	Moderate – the site is currently industrial and used for exporting logs. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	More than 60 miles
Local Support	High
Availability for SR 520 Project	Yes


Port of Port Angeles Terminal 7
Rayonier Properties LLC
3
Twin River Clay Quarry
4
5
101
Port Angeles
CLALLAM


Twin River Clay Quarry

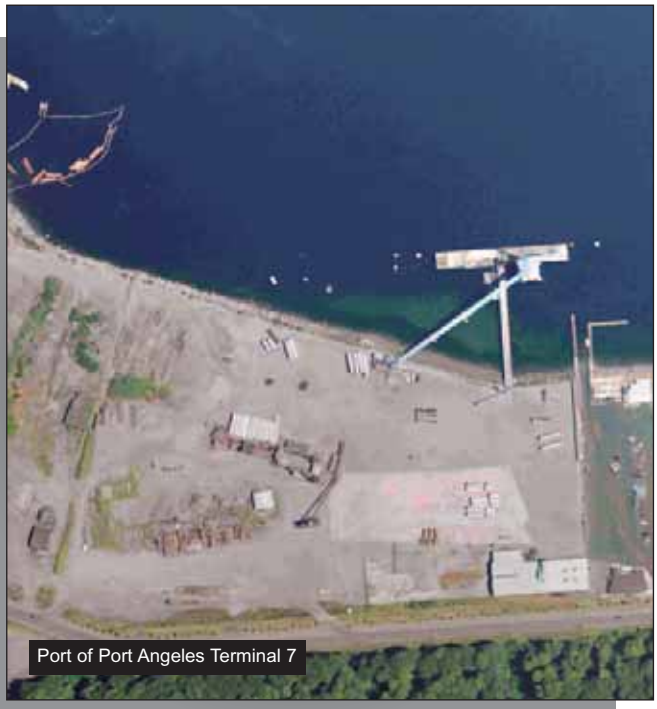

Strait of Juan de Fuca
N
Twin River Clay Quarry
112
West Twin River
East Twin River
Murdock Creek
Sadie Creek
CLALLAM COUNTY

Twin River Clay Quarry
CLALLAM COUNTY

The 210-acre site, owned by LaFarge North America, is more than 70 miles from the Hood Canal Bridge. The clay quarry lies on the Strait of Juan de Fuca, 20 miles west of Port Angeles. The site may be exposed to severe weather conditions.

The property is large enough to accommodate construction of pontoons and anchors on the original site's schedule (equal number of cycles). However, it would require a full graving dock design: permitting, excavation, and installation of a facility similar to the partially built structure in Port Angeles. The site lacks any facilities other than a 300-foot wide by 600-foot long earthen pier. The ground is hard in comparison to the Port Angeles site, making sheet pile installation difficult or impossible. Excavation may require drilling and blasting. Existing channel depths near the site are relatively shallow and subject to currents; extensive dredging would be required initially and would need to be maintained. Local services and supplies are limited and would need to be transported to the site.

Site Information	High Risk Sites
Towing Distance	70 miles
Site Size	210 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Fair – the site would require extensive dredging
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	15 - 30 miles
Tides & Currents	Severe
Wind & Wave Exposure	Exposure to severe weather
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	15 - 30 miles
Site Utilities	Needs improvements
Environmental Risks	Low – the site is currently not being used. It was a clay quarry between 1966 and 1999. There is a low probability that the site contains archaeological deposits.
Environmental Process	Approximately 12-18 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	Less than 30 miles
Local Support	Unknown
Availability for SR 520 Project	Yes


Port of Port Angeles Terminal 7

Port of Port Angeles, Terminal 7
CLALLAM COUNTY

The 15-acre site at Terminal 7 lies adjacent to the ancient S'Klallam village of Tse whit-zen and the existing Port Angeles graving dock site. The site, owned by the Port of Port Angeles, lies 50 miles from the Hood Canal Bridge.

The site is not large enough to construct pontoons but may be suitable for an anchor construction and launch facility. The property would require a smaller graving dock design: permitting, excavation, and installation. There is an existing dock system with others nearby on port property. The docks could be used for mooring and outfitting pontoons and anchors. Because of its location adjacent to the existing Port Angeles graving dock site, a cultural resource assessment would be required.

Site Information	High Risk Sites
Towing Distance	50 miles
Site Size	15 acres
Waterfront Length	More than 1,000 feet
Land & Water Access	Good
Existing Marine Facitities	Needs improvements
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Typical
Wind & Wave Exposure	Minimal
Proximity of Rail	No direct access
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	High – the site is a paved, former chip facility. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	Less than 30 miles
Local Support	High
Availability for SR 520 Project	Maybe


JEFFERSON
101
KITSAP
Skokomish River
11
Sanderson Field
Industrial Park
12
Shelton
MASON
GRAYS HARBOR
101
12
5


Skokomish River Delta


N
101
Hood Canal
Annas Bay
Skokomish River Site
106
MASON COUNTY
Skokomish River

Skokomish River
MASON COUNTY

This property is owned and/or controlled by the Skokomish Tribe, Tacoma Public Utilities, and Hunter Farms. The total site acreage is unknown, though it appears to be fairly large. The property rests at the mouth of the Skokomish River, approximately 40 miles from the Hood Canal Bridge.

In order to build a graving dock facility, this site must be fully developed. It's located in a flood zone, meaning extensive dredging would be required to build a new navigation channel large enough to tow pontoons and anchors to the bridge site. The site likely would require a lengthy permitting process and wetlands could be affected. A cultural resource assessment would be required due to the site's location.

Site Information	Least Reasonable Sites
Towing Distance	Approximately 40 miles
Site Size	Unknown
Waterfront Length	Unknown
Land & Water Access	Poor –water access will require extensive dredging in an area with high quality fish habitat.
Existing Marine Facitities	Limited
Proximity of Other Marine Facilities	More than 30 miles
Tides & Currents	Unknown
Wind & Wave Exposure	Moderate
Proximity of Rail	No direct access
Access to Aggregate	7 - 15 miles
Proximity to Concrete Plants	15 - 30 miles
Site Utilities	Unknown
Environmental Risks	High – the site is currently farmland. Dredging the river would be controversial and wetlands and fish habitat would be affected. A cultural resource assessment would be required due to the site's location.
Environmental Process	Approximately 12-18 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	30 - 60 miles
Local Support	Unknown
Availability for SR 520 Project	Unknown


Seattle
5
10
Floating
Dry Dock
Bremerton
14
FCB Facilities Team
90
KITSAP
KING
Thea Foss
Waterway
13
14
FCB Facilities Team
Tacoma
5
PIERCE


Thea Foss Waterway Site


Puget Sound
N
MARINE VIEW DRIVE
Commencement Bay
Hylebos Waterway
Milwaukee Waterway
Sitcum Waterway
Blair Waterway
Puyallup River
Middle Waterway
Thea Foss Waterway
Concrete
Technologies
FCB Team Facilities
Tacoma
PIERCE COUNTY
705
Thea Foss
Waterway Site
509
5
16

Thea Foss Waterway
PIERCE COUNTY

This 6.2-acre site is owned by the J. M. Martinac Shipbuilding Corporation. Among all proposals received, this property is one of the smallest. It's located 55 miles from the Hood Canal Bridge.

In order to construct what would be a small graving dock, the site's vessel launch way must be modified. Because of the small size of the site, it would take eight times longer to build pontoons and anchors compared to the original and anticipated production time. Therefore, the Thea Foss Waterway is not a practical site. In addition, this waterway is presently undergoing superfund cleanup for sediment contamination. Additional dredging would be required to launch the pontoons, which may or may not work with the current sediment cleanup plan.

Site Information	Least Reasonable Sites
Towing Distance	55 miles
Site Size	6.2 acres
Waterfront Length	600 feet
Land & Water Access	Fair – dredging would be required
Existing Marine Facitities	Ready for use
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Unknown
Wind & Wave Exposure	Minimal
Proximity of Rail	Within haul distance
Access to Aggregate	Less than 7 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	High – the site is part of a large superfund site for sediment contamination. Cleanup is underway, but pontoon construction would require additional dredging, which may or may not work with the sediment cleanup plan.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	Less than 30 miles
Local Support	Unknown
Availability for SR 520 Project	Maybe


JEFFERSON
101
KITSAP
Skokomish River
11
Sanderson Field
Industrial Park
12
Shelton
MASON
GRAYS HARBOR
101
12
5

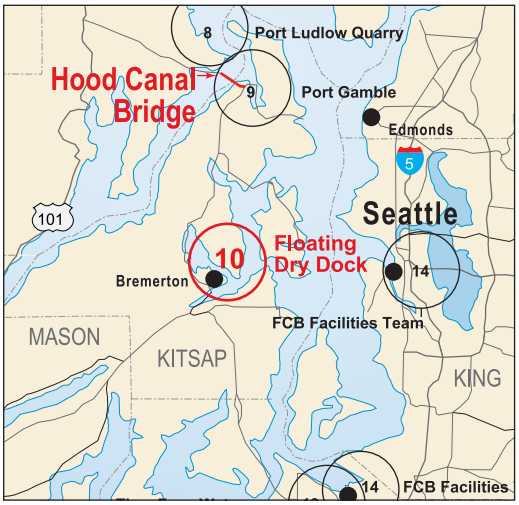

Sanderson Field Industrial Park


106
N
Skokomish River
MASON COUNTY
101
102
Sanderson Field
Sandson Field Industrial Park
3
Oakland
Bay
Shelton
Eagle Point

Port of Shelton *Sanderson Field Industrial Park*
MASON COUNTY

This 100-acre site is owned by the Port of Shelton. The site lacks access to a waterway; therefore it is not a viable option because water access is needed to transport the constructed pontoons and anchors. The property lies 10 miles south of the south end of Hood Canal. It is 40 miles towing distance to the Hood Canal Bridge using Hood Canal. Towing distance from the Port of Shelton through Puget Sound is more than 100 miles.

Site Information	Least Reasonable Sites
Towing Distance	Not applicable, no water access
Site Size	100 acres
Waterfront Length	No waterfront access
Land & Water Access	No water access, land access is available
Existing Marine Facitities	Do not exist
Proximity of Other Marine Facilities	More than 30 miles
Tides & Currents	Not applicable
Wind & Wave Exposure	Not applicable
Proximity of Rail	No direct access
Access to Aggregate	7- 15 miles
Proximity to Concrete Plants	15 - 30 miles
Site Utilities	Ready for project use
Environmental Risks	Moderate – the site is currently and airport industrial park. It has a low probability of containing archaeological deposits.
Environmental Process	Approximately 6-12 months for environmental documentation and permitting once site design is complete.
Site Data	Limited
Proximity to Trades People	30 - 60 miles
Local Support	Unknown
Availability for SR 520 Project	Unknown


8
Port Ludlow Quarry
Hood Canal Bridge
9
Port Gamble
Edmonds
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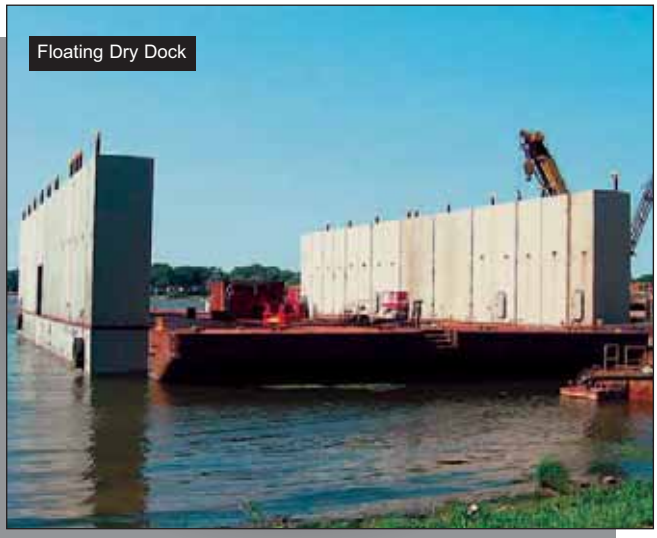
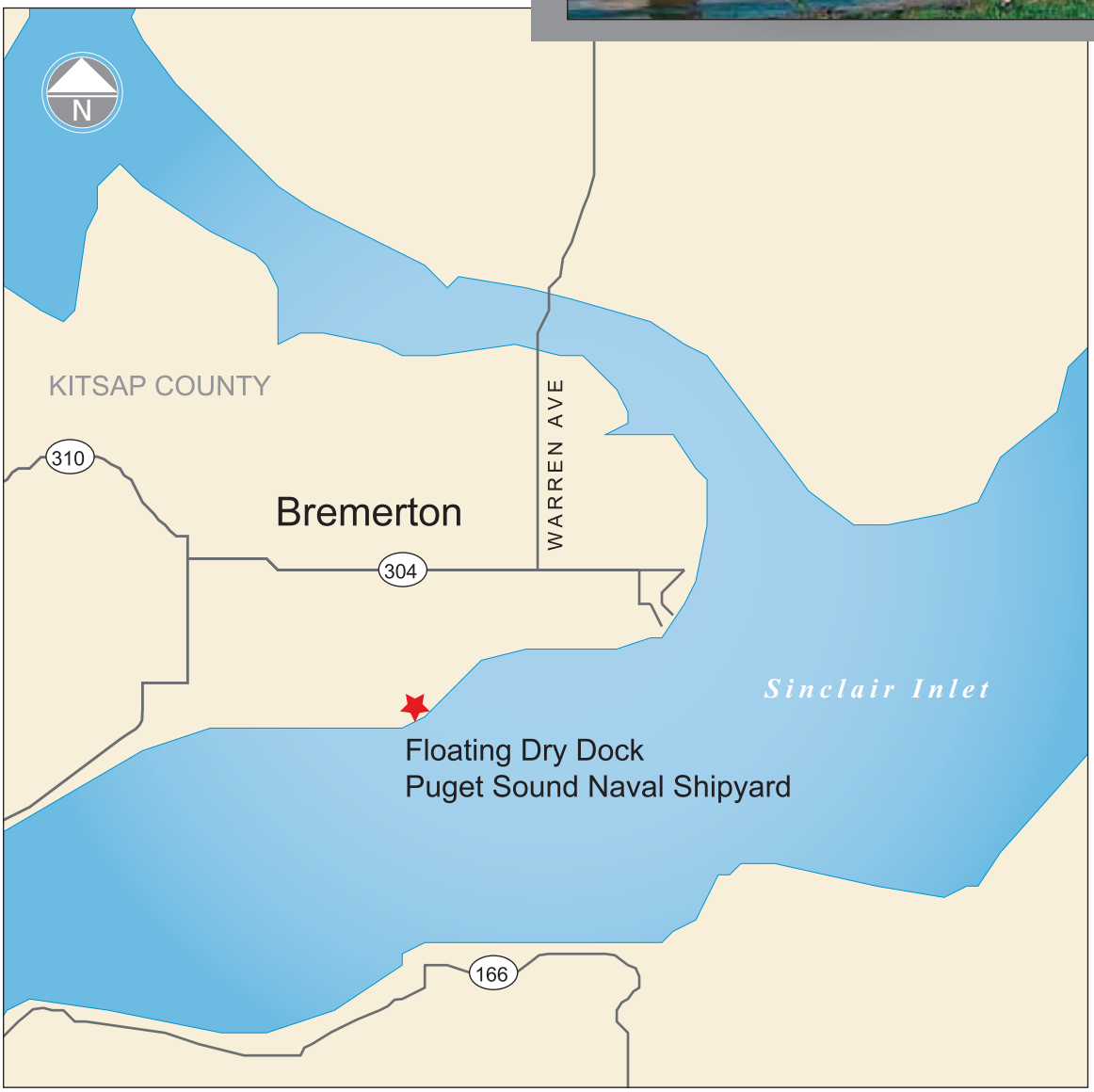
101
Seattle
10
Floating Dry Dock
Bremerton
14
FCB Facilities Team
MASON
KITSAP
KING
14
FCB Facilities


Floating Dry Dock


N
KITSAP COUNTY
310
Bremerton
WARREN AVE
304
Sinclair Inlet
Floating Dry Dock
Puget Sound Naval Shipyard
166

Floating Dry Dock *Bremerton, U. S. Navy*
KITSAP COUNTY

Under this proposal, a dry dock system available in Pearl Harbor would be relocated to the Puget Sound Naval Shipyard facilities in Bremerton for pontoon and anchor construction. The portable dry dock could be anchored in one of many potential locations, though at this time only the Puget Sound Naval Shipyard has been considered. Puget Sound Naval Shipyard is located 50 miles from the Hood Canal Bridge.

The Pearl Harbor dry dock system and the Puget Sound Naval Shipyard are owned by the Department of the Navy, and the facilities would be leased. During discussions with the Navy, WSDOT was informed that only three of ten sections of the Pearl Harbor dry dock are available, the other sections have been salvaged. Pontoons cannot be practically constructed in the three sections on hand. In addition, due to the Navy's current shipyard activities at the Puget Sound Naval Shipyard site and dry dock, it is unlikely that adequate space could be made available for pontoon construction until 2007 or later. Environmental risks are unknown.

Site Information	Least Reasonable Sites
Towing Distance	50 miles
Site Size	Unknown, though most likely limited due to Navy ship yard activities.
Waterfront Length	Unknown
Land & Water Access	Good
Existing Marine Facitities	Ready for use
Proximity of Other Marine Facilities	Less than 15 miles
Tides & Currents	Moderate
Wind & Wave Exposure	Minimal
Proximity of Rail	Adjacent to site
Access to Aggregate	7- 15 miles
Proximity to Concrete Plants	Less than 15 miles
Site Utilities	Ready for project use
Environmental Risks	Unknown
Environmental Process	Unknown
Site Data	Unknown
Proximity to Trades People	Less than 30 miles
Local Support	Unknown
Availability for SR 520 Project	No